

WHAT IS CLAIMED IS:

1. An image-processing method, which carries out a sharpening process by subtracting second-order differential with respect to each pixel, obtained by defining the distribution of image data of an original image as a function, from the image data of the original image,

wherein the degree of the sharpening process is controlled by altering a first parameter for determining the size of the second-order differential to be subtracted from the image data of the original image.

2. The image-processing method as defined in claim 1, wherein: data that is representative of the characteristic of the image data is extracted from the inputted image data, and the first parameter is set by inputting this data to a predetermined algorithm.

3. The image-processing method as defined in claim 2, wherein the data that is representative of the characteristic of the image data is an average value of chrominance differential values of respective pixels contained in the image data.

4. The image-processing method as defined in claim 3, wherein the predetermined algorithm sets the value of

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the first parameter which allows the difference between a function for finding the average value of chrominance differential values that varies with the first parameter and an ideal straight line that varies in proportion to the first parameter to become not less than a predetermined value, as the first parameter determining the size of the second-order differential.

5. The image-processing method as defined in claim 1, wherein the sharpening process using the second-order differential is carried out on pixel data of the original image for each of color components.

6. An image-processing method, which carries out a sharpening process by subtracting second-order differential with respect to each pixel, obtained by defining the distribution of image data of an original image as a function, from the image data of the original image,

wherein: the second-order differential is obtained by the sum total of differences in value between a target pixel and a plurality of pixels in the vicinity thereof, and each of the differences is multiplied by a coefficient, with the coefficient being varied depending on the size of the corresponding difference.

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7. The image-processing method as defined in claim 6, wherein: the coefficient is set to be different values depending on cases in which the difference is greater than a second parameter and in which the difference is smaller than the second parameter, and the degree of the sharpening process is controlled by altering the second parameter.

8. The image-processing method as defined in claim 7, wherein data that is representative of the characteristic of the image data is extracted from the inputted image data, and the second parameter is set by inputting this data to a predetermined algorithm.

9. The image-processing method as defined in claim 6, wherein the sharpening process using the second-order differential is carried out on pixel data of the original image for each of color components.

10. An image-processing, which carries out a sharpening process by subtracting second-order differential with respect to each pixel, obtained by defining the distribution of image data of an original image as a function, from the image data of the original image, wherein the second-order differential is provided with an upper limit and/or a lower limit, and the degree

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of the sharpening process is controlled by altering a third parameter for determining the upper limit and/or the lower limit.

11. The image-processing method as defined in claim 10, wherein the upper limit and/or the lower limit is determined by a value obtained by dividing the third parameter by a chrominance differential value.

12. The image-processing method as defined in claim 10, wherein: data that is representative of the characteristic of the image data is extracted from the inputted image data, and the third parameter is set by inputting this data to a predetermined algorithm.

13. The image-processing method as defined in claim 10, wherein the sharpening process using the second-order differential is carried out on pixel data of the original image for each of color components.

14. A recording medium, which has an image-processing program recorded therein, the image-processing program being arranged to allow a computer to carry out a sharpening process by subtracting second-order differential with respect to each pixel, obtained by defining the distribution

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of image data of an original image as a function, from the image data of the original image,

wherein the computer is allowed to execute a process for controlling the degree of the sharpening process altering a first parameter for determining the size of the second-order differential to be subtracted from the image data of the original image.

15. The recording medium as defined in claim 14, which has an image-processing program recorded therein,

wherein: the computer is arranged to execute processes in which data that is representative of the characteristic of the image data is extracted from the inputted image data, and the first parameter is set by inputting this data to a predetermined algorithm.

16. The recording medium as defined in claim 15, which has an image-processing program recorded therein,

wherein: the data that is representative of the characteristic of the image data is an average value of chrominance differential values of respective pixels contained in the image data.

17. The recording medium as defined in claim 16, which has an image-processing program recorded therein,

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wherein the predetermined algorithm sets the value of the first parameter which allows the difference between a function for finding the average value of chrominance differential values that varies with the first parameter and an ideal straight line that varies in proportion to the first parameter to become not less than a predetermined value, as the first parameter determining the size of the second-order differential.

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18. The recording medium as defined in claim 14, which has an image-processing program recorded therein,

wherein the sharpening process using the second-order differential is carried out on pixel data of the original image for each of color components.

19. A recording medium, which has an image-processing program recorded therein, the image-processing program being arranged to allow a computer to carry out a sharpening process by subtracting second-order differential with respect to each pixel, obtained by defining the distribution of image data of an original image as a function, from the image data of the original image,

the computer being allowed to execute a process wherein: the second-order differential is obtained by the sum total of differences between a target pixel and a

plurality of pixels in the vicinity thereof, and each of the differences is multiplied by a coefficient, with the coefficient being varied depending on the size of the corresponding difference.

20. The recording medium as defined in claim 19, which has an image-processing program recorded therein,

wherein the computer is allowed to execute a process wherein: the coefficient is set to be different values depending on cases in which the difference is greater than a second parameter and in which the difference is smaller than the second parameter, and the degree of the sharpening process is controlled by altering the second parameter.

21. The recording medium as defined in claim 20, which has an image-processing program recorded therein,

wherein: the computer is arranged to execute processes in which data that is representative of the characteristic of the image data is extracted from the inputted image data, and the second parameter is set by inputting this data to a predetermined algorithm.

22. The recording medium as defined in claim 19, which has an image-processing program recorded therein,

wherein the sharpening process using the second-order

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differential is carried out on pixel data of the original image for each of color components.

23. A recording medium, which has an image-processing program recorded therein, the image-processing program being arranged to allow a computer to carry out a sharpening process by subtracting second-order differential with respect to each pixel, obtained by defining the distribution of image data of an original image as a function, from the image data of the original image,

the computer being allowed to execute a process wherein: the second-order differential is provided with an upper limit and/or a lower limit, and the degree of the sharpening process is controlled by altering a third parameter for determining the upper limit and/or the lower limit.

24. The recording medium as defined in claim 23, which has an image-processing program recorded therein,

wherein the computer is allowed to execute a process wherein: the upper limit and/or the lower limit is determined by a value obtained by dividing the third parameter by a chrominance differential value.

25. The recording medium as defined in claim 23, which

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has an image-processing program recorded therein,  
wherein the computer is allowed to execute a process  
wherein: data that is representative of the characteristic  
of the image data is extracted from the inputted image data,  
and the third parameter is set by inputting this data to  
a predetermined algorithm.

26. The recording medium as defined in claim 23, which  
has an image-processing program recorded therein,  
wherein the computer is allowed to execute a process  
wherein: the sharpening process using the second-order  
differential is carried out on pixel data of the original  
image for each of color components.

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